II. AMENDMENTS TO THE CLAIMS

Claims 1-23 (Withdrawn)

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Claim 24. (Currently amended) A method of identifying one or more compounds of interest which have binding affinity for a target receptor comprising:

(a) identifying one or more key component fragments of one or more chemical compounds having binding affinity for a target receptor wherein said key component fragment is a portion of a molecule which contributes to the binding affinity of that molecule for the target receptor;

(b) coupling one or more analogs of the one or more chemical compounds to a carrier molecule to construct one or more analog-carrier conjugates, said analogs containing one or more of the key component fragments, said ~~analog~~ analogs being coupled to the carrier such that one or more of the key component fragments are exposed;

(c) utilizing the analog-carrier conjugates to generate monoclonal antibodies in vivo or in vitro that are able to define the exposed key component fragments; and

(d) ~~determining the monoclonal antibodies which are most specific for the key component fragments of the one or more chemical compounds and which bind to the one or more chemical compounds~~ measuring the dissociation constant for the binding of the monoclonal antibodies to the analogs to determine which monoclonal antibodies exhibit the strongest binding;

(e) immobilizing the monoclonal antibodies having the strongest binding on a support; and

(f) conducting a series of in-vitro assays utilizing said immobilized monoclonal antibodies to screen one or more compounds of interest.

Claims 25-27 (Canceled)

Claim 28. (Original) The method of claim 24, wherein the monoclonal antibodies generated for each ~~analog~~ analog-carrier conjugate are tested for their dissociation constant and those exhibiting the strongest binding are included in a panel such that each different ~~analog~~ analog-carrier conjugate is represented by monoclonal antibodies in the panel.

a' cont

Claim 29. (Currently Amended) The method of claim 28, wherein the dissociation constant is in the range of from about 0.01nM to about 10nM.

Claim 30. (Original) The method of claim 24, wherein the monoclonal antibodies are generated using in vivo immunization methods.

Claim 31. (Original) The method of claim 24, wherein the monoclonal antibodies are generated in vitro immunization methods.

Claim 32 (Currently amended) The method of claim 24, wherein the one or more analogs of the one or more chemical compounds are coupled to a carrier molecule to construct one or more analog-carrier conjugates using functional groups that are selected from the group consisting of carboxyl, hydroxy, keto, amino, nitro, and sulfhydryl.

Claim 33. (Canceled)

Claim 34. (Original) The method of claim 24, wherein the carrier molecule is selected from the group consisting of Keyhole Limpet Hemocyanin, ovalbumin and thyroglobulin.

Claim 35. (Original) The method of claim 24, wherein the one or more chemical compounds exhibit PDEIV inhibitor or opiate activity.

Claim 36. (Currently amended) The method of claim ~~24~~ 28, wherein the panel of monoclonal antibodies is pooled before attachment to support.

Claim 37. (Currently amended) The method of claim ~~24~~ 36 wherein each member of the panel of monoclonal antibodies is utilized separately to screen compounds of interest.

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Claim 38. (Original) The method of claim 24, wherein the one or more chemical compounds are organic molecules.

Claim 39. (Original) The method of claim 24, wherein the one or more chemical compounds having binding affinity for a target receptor have a molecular weight of less than approximately 1000g/mole.

Claim 40. (Original) The method of claim 24, wherein the one or more chemical compounds having binding affinity for a target receptor have a molecular weight of less than approximately 500 g/mole.

Claim 41. (Original) The method of claim 24, wherein the one or more chemical compounds identified are inorganic molecules.

Claim 42. (Original) The method of claim 24, wherein the one or more chemical compounds identified are biological molecules.

Claim 43. (Original) The method of claim ~~24~~ 28, wherein the panel of monoclonal antibodies is comprised of 2-3 monoclonal antibodies.

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Claim ~~44~~ 92. (New) The method of claim 24, wherein the one or more compounds of interest of step f) are synthetic products.

Claim 93. (New) A method of identifying one or more compounds of interest which have binding affinity for a target receptor comprising:

(a) identifying one or more key component fragments of one or more chemical compounds having binding affinity for a target receptor wherein said key component fragment is a portion of a molecule which contributes to the binding affinity of that molecule for the target receptor;

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(b) coupling one or more analogs of the one or more chemical compounds to a carrier molecule to construct one or more analog-carrier conjugates, said analogs containing one or more of the key component fragments, said analogs being coupled to the carrier such that one or more of the key component fragments are exposed;

(c) utilizing two or more analog-carrier conjugates to generate a panel of monoclonal antibodies, wherein each analog-carrier conjugate defines a key component fragment of the one or more chemical compounds, and wherein the analog-carrier conjugates together define the entire surface conformation of the one or more chemical compounds;

(d) assaying the monoclonal antibodies to determine which are most specific for the key component fragments of the one or more chemical compounds and which bind to the one or more chemical compounds;

(e) immobilizing the monoclonal antibodies which are most specific for the key component fragments on a support; and

(f) conducting a series of in-vitro assays utilizing said immobilized monoclonal antibodies to screen one or more compounds of interest.

Claim 94. (New) A method of identifying one or more compounds from synthetic products which have binding affinity for a target receptor comprising:

(a) identifying one or more key component fragments of one or more chemical compounds having binding affinity for a target receptor wherein said key component fragment is a portion of a molecule which contributes to the binding affinity of that molecule for the target receptor;

(b) coupling one or more analogs of the one or more chemical compounds to a carrier molecule to construct one or more analog-carrier conjugates, said analogs containing one or more of the key component fragments, said analogs being coupled to the carrier such that one or more of the key component fragments are exposed;

A2 cont'd

(c) utilizing two or more analog-carrier conjugates to generate a panel of monoclonal antibodies, and wherein each analog-carrier conjugate defines a key component fragment of the one or more chemical compounds, and wherein the analog-carrier conjugates together define a portion of the entire surface conformation of the one or more chemical compounds;

(d) assaying the monoclonal antibodies to determine which are most specific for the key component fragments of the one or more chemical compounds and which bind to the one or more chemical compounds;

(e) immobilizing the monoclonal antibodies which are most specific for the key component fragments on a support; and

(f) conducting a series of in-vitro assays utilizing said immobilized monoclonal antibodies to screen one or more compounds from synthetic products.